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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,718	07/10/2003	Jerzy Bala	400100	2624

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EXAMINER

DAYE, CHELCIE L

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/616,718	Applicant(s) BALA, JERZY	
	Examiner Chelcie Daye	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is issued in response to applicant's amendment filed on June 9, 2006.
2. Claims 1-4 are presented. One claim was added and no claims were cancelled.
3. Claims 1-4 are pending.
4. Applicant's arguments filed June 9, 2006, have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, newly added claim 4 discloses "a global attribute". It is unclear to the examiner, how the applicant ascertains the global attribute. It is unclear if the global attribute is literally "global", meaning available to all of the agents throughout the system or if the global attribute is deemed to be just an arbitrary attribute chosen. As a result of a lack of description provided within the specification in order for the examiner to ascertain the relevance of the global attribute

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and in order to further prosecution, examiner will give the limitation its broadest reasonable interpretation.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kargupta (US Patent No. 6,708,163) in view of Kamath (US Patent No. 6,675,164), and further in view of "Distributed Mining of Classification Rules", by Cho and Wuthrich, Published on January 2002; referred to hereinafter as "Cho".**

Regarding Claim 1, Kargupta discloses a method for distributed data mining (column 3, lines 7-9, Kargupta), comprising the steps of:

invoking agents (Fig.8, Kargupta) by a mediator (Fig.8; column 3, lines 60-66, Kargupta; wherein facilitator corresponds with mediator);

beginning attribute (column 3, lines 20-27, Kargupta) selection by a plurality of agents (Fig.8, Kargupta);

passing a best attribute (column 13, lines 18-27, Kargupta) from each of said plurality of agents to said mediator (column 28, lines 49-55, Kargupta) wherein a best attribute is an attribute having a highest information gain as

between attributes found by the respective agent (column 13, lines 36-58, Kargupta)¹; and

notifying each of said plurality of agents (column 30, lines 3-8, Kargupta; wherein tell corresponds with notifying). However, Kargupta does not explicitly disclose the steps of selecting a winning agent; initiating data splitting by said winning agent; forwarding split data index information from said winning agent; generating and saving partial rules; and outputting complete rules. On the other hand, Kamath discloses selecting a winning agent (column 14, lines 17-18, Kamath); initiating data splitting (column 13, lines 56-60, Kamath) by said winning agent (column 14, lines 17-19, Kamath); and forwarding split data index information (column 13, lines 64-66, Kamath; wherein when the list is being sorted this results in an data index) from said winning agent (column 14, lines 17-19, Kamath). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Kamath's teaching into the Kargupta system. A skilled artisan would have been motivated to combine in order to determine the most noteworthy agent with the appropriate data. After designating the proper information, separating the information would allow for the system to mine through a large collection of data, quicker and efficiently, causing the cost of production to decrease. However, Kargupta in view of Kamath, do not explicitly disclose generating and saving partial rules and outputting complete rules. On the other hand, Cho discloses generating and saving partial rules (pg. 2, lines 14-

¹ Examiner Notes: Maximizing the expected information gain corresponds to the highest information gain,

18, Cho) and outputting complete rules (pg. 4, lines 24-25, Cho). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Cho's teaching into the Kargupta in view of Kamath system. A skilled artisan would have been motivated to do so in order to permit the system to produce only a fractional amount of the rules, this guarantees that the found knowledge reflects the entire database because the generated knowledge is taking the data from all the sources into account. This system results in, fast-distributed data mining.

Regarding Claim 2, Kargupta in view of Kamath, further in view of Cho, discloses a method wherein said plurality of agents include non-winning agents, and further comprising the step of:

obtaining split data index information (column 13, lines 64-66, Kamath) by said non-winning agents (column 14, lines 18-27, Kamath) from said mediator (Fig.8; column 3, lines 60-66, Kargupta).

Regarding Claim 3, Kargupta in view of Kamath, further in view of Cho, discloses a method wherein said split data index information is compressed (Fig.5, item 123; column 21, lines 46-54, Kamath).

Regarding Claim 4, the combination of Kargupta in view of Kamath, disclose a method for distributed data mining, comprising the steps of:

invoking a plurality of agents at a corresponding plurality of distributed data locations (column 23, lines 37-51, Kargupta), each of said agents identifying local attributes that split the data of corresponding local data locations into classes (column 28, lines 32-41, Kargupta);

each of said agents determining a local attribute having a highest information gain for the respective local data locations (column 13, lines 36-58, Kargupta);

forwarding the local attribute having the highest information gain for each of the local data locations to a mediator (column 29, lines 7-12, Kargupta);

selecting as attribute having a highest information gain from among the local attributes received by the mediator (column 13, lines 36-58, Kargupta), said selected attribute being considered a global attribute (column 7, lines 4-15, Kargupta)²;

distributing the global attribute to said plurality of agents (column 32, lines 45-54, Kargupta) for application to the data of the local data locations to split the local data (column 13, lines 58-66, Kamath);

invoking said plurality of agents to identify further local attributes of the split data at the local data locations (column 14, lines 8-12, Kamath);

² Examiner Notes: The global model corresponds to the global attribute.

at each local data location determining the further local attributes having a highest information gain for the split data (column 13, lines 36-58, Kargupta);

forwarding the further local attributes having a highest information gain for each local data location to the mediator (column 29, lines 7-12, Kargupta);

selecting an attribute having a highest information gain from among the further local attributes received by the mediator (column 13, lines 52-55, Kargupta) to provide a further global attribute (column 11, lines 11-30, Kargupta);
and

distributing the further global attribute to each of the distributed data locations (column 32, lines 45-54, Kargupta) for application to provide further split data at the local data locations (column 13, lines 58-66, Kamath).

Response to Arguments

Applicant argues, that neither Kargupta, Kamath, nor Cho disclose" the features of the invention and do not suggest such features".

Examiner respectfully disagrees. In regards to the remarks forwarded to the examiner, it appears applicant merely summarizes the prior art reference of Kargupta, Kamath, and Cho. It also appears applicant discusses features of the application which are not addressed within the claim language. However, the claimed features of the application have been disclosed in the previous office action mailed 1/03/2006 along with the newly added claim 4, as stated in the action above.

Applicant argues, "there is no suggestion in the prior art to modify the teachings of the prior art references, in order to provide the features as defined in the claims".

Examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the suggestion to combine the Kamath reference with the Kargupta system along with the Cho reference, was established in the office action mailed on 1/03/2006. However, to further elaborate, Kamath discloses at column 6, lines 29-65, wherein the invention is a data mining system for large, complex data sets. The system is used to uncover patterns in data in order to plow through data sets to turn up information that would be more beneficial for the users. The patterns being identified by using attributes are arranged so that some organization can exist. Therefore, the suggestion to combine is disclosed.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

10. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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